

Rock Harbor Creek Subwatershed

Orleans, Cape Cod, Massachusetts

The Rock Harbor Creek Subwatershed is located in Orleans and Eastham. It is a small subwatershed with an area of 551 acres. Rock Harbor Creek runs from Cedar Pond into Cape Cod Bay. This subwatershed is contained within a portion of the Inner Cape Cod Bay Area of Critical Environmental Concern (ACEC).

The ACEC was designated in 1985 and is 2,550 acres. Within this area are almost 900 acres of salt marsh, hundreds of acres of highly productive shellfish beds, extensive undisturbed wildlife habitat, barrier beaches, salt ponds, and tidal rivers and creeks. The nine barrier beaches within the ACEC act as natural storm buffers to protect landward areas. Several areas of historical interest from early settlements are listed with the Massachusetts Historic Commission. The area is noted for its pristine character, including feeding and nesting grounds for the endangered diamond-back terrapin and important breeding, feeding, and nesting areas for over 80 species of birds, as well as many species of mammals.

According to the Division of Marine Fisheries, Rock Harbor is closed due to the presence of a marina. DMF Sanitary Surveys found that a pipe into Rock Harbor Creek may contribute pollution to the waterbody.

Most of Orleans is serviced by municipal water. About six cottages near the rotary on the Eastham/Orleans town line have service connections to the Orleans water supply. Orleans plans to begin construction of an iron and manganese treatment plant in the end of 2002 to treat water from wells that is currently unpalatable. Orleans does not have a municipal sewer system.

In Eastham, there is a potential public health issue associated with high nitrate levels in drinking water. There are no municipal water or sewer systems in Eastham, but the town is beginning to look at comprehensive water resources management, including both public water supply and alternative wastewater management.

The Town of Eastham saw a dramatic increase in recycling and an accompanying decrease in the amount of garbage it transports to a regional trash incinerating facility in 2001. The amount of recycleable materials brought to the transfer station increased by 78 percent, and the amount of trash the town took to a plant off-Cape dropped 17 percent.

Stewards:

- Unknown

Studies conducted in the watershed:

- Source Water Assessment Program (SWAP) in Eastham, conducted by Department of Environmental Protection. Final Reports available for four of the five nontransient noncommunity (NTNC) public water supply systems (such as schools) in 2002. Of 45 transient noncommunity (TNC) water suppliers (such as restaurants) in the town, 24 were assessed by 2002 with final reports available for 17 of them.
- Water Resources of Outer Cape Cod. 1998. Cape Cod Commission and Lower Cape Water Management Task Force.
- Cape Cod Atlas of Tidally Restricted Salt Marshes. 2001. Cape Cod Commission.

- Orleans Priority Open Space Project – 2001. The Compact of Cape Cod Conservation Trusts. Created a ranking list of undeveloped parcels that, if acquired as open space, would protect the most important natural resource areas in Orleans.
- Hydrologic Analysis of the Water Resources of Lower Cape Cod. US Geological Survey. Conducted during 2001-2003.
- Rock Harbor was selected as a priority area for Year 2 of the Massachusetts Estuaries Project, funded by the state and UMass Dartmouth. The goal of the project is to develop critical nutrient loading thresholds for each embayment to aid in water resources planning that will support federal requirements for the development of Total Maximum Daily Loads for impaired surface waters. This area will be evaluated in 2003.

Who is collecting water quality data and where:

- Town of Eastham has been collecting data on private well water quality for the past year because of concern over elevated levels of nitrate in drinking water. Approximately 20% of the wells in the town were tested in 2001.
- Orleans has two years of water quality data for the Rock Harbor system, developed with the cooperation of Eastham.
- The United States Geological Survey maintains a stream flow gauge in Rock Harbor Creek, collecting data that will be used in the Massachusetts Estuaries Project.

Management actions taken:

- Source Water Assessment Program (SWAP) in Eastham, conducted by Department of Environmental Protection. 2002.

Subwatershed facts: (For data sources see Appendix)

- 21 E sites: 3 – Chris Bullock Toyota, West Road; T Shirt Shop, Cranberry Highway; 1/J Cove Road, Route 6A
- Solid waste sites: none
- Zone IIs located in this watershed: none
- Interim Wellhead Protection Areas (IWPAs): 1
- Percent of the undeveloped land that is protected (according to 1985/1990 data): 20.0%
- Acres of existing wetlands: 77
- Certified vernal pools: none
- Named freshwater ponds: Cedar (*Orleans*)
- Named rivers or creeks: Rock Harbor Creek
- Outstanding Resource Waters: Rock Harbor Creek, Cedar Pond
- 1998 Massachusetts 303(d) List of Impaired Waterbodies: A segment of Rock Harbor Creek, from the outlet at Cedar Pond to the mouth at Cape Cod Bay – pathogens.
- Beach closures: Dyer Prince Beach was closed to swimming for at least one day during the 2001 season due to high enterococcus bacteria counts.
- Shellfish growing areas: Rock Harbor is prohibited to shellfish harvesting.
- This watershed contains Natural Heritage and Endangered Species Program (NHESP) Estimated Habitats of Rare Wildlife.

Priorities:

- Develop short and long-term management plans to maintain an adequate supply of potable water, including monitoring of water quality and investigation of practicable alternatives. Explore alternatives of managing wastewater to reduce nitrogen impacts in drinking water, on shellfish habitat, and on marine water quality.
- Conduct a townwide study of wastewater management in Orleans by 2003 to decide the best solution for each part of town (from the Orleans Local Comprehensive Plan).
- Support Orleans Comprehensive Water Resources Management Plan. Priority for SRF funding for planning.
- Determine if pipe discharging into Rock Harbor Creek contributes pollution and develop BMP to control discharge.
- Implement those salt marsh restoration projects identified in the 2001 *Cape Cod Atlas of Tidally Restricted Salt Marshes* that have been evaluated and prioritized by the town. Sites are: Dyer Prentice Road restriction of Rock Harbor Creek (Site EA-1) and another Dyer Prentice Road restriction of Rock Harbor Creek (EA-2).
- Establish private well monitoring programs to track private well water quality (from the Lower Cape Water Management Task Force's Final Report 1998).
- Study in greater detail the potential effects of groundwater pumping on the hydrology and ecology of kettle ponds and vernal pools (from the Lower Cape Water Management Task Force's Final Report 1998).
- The town and National Seashore should begin to explore institutional mechanisms for cooperatively managing the shared water resources of the Outer Cape (from the Lower Cape Water Management Task Force's Final Report 1998).
- Use the USGS Groundwater Modeling Study to identify and acquire land for future water supply sites.

Recreation:

Camping areas: none

Golf courses: none

Pathways and trails: Cape Cod Rail Trail

www.capecodcommission.org/pathways/trailguide.htm

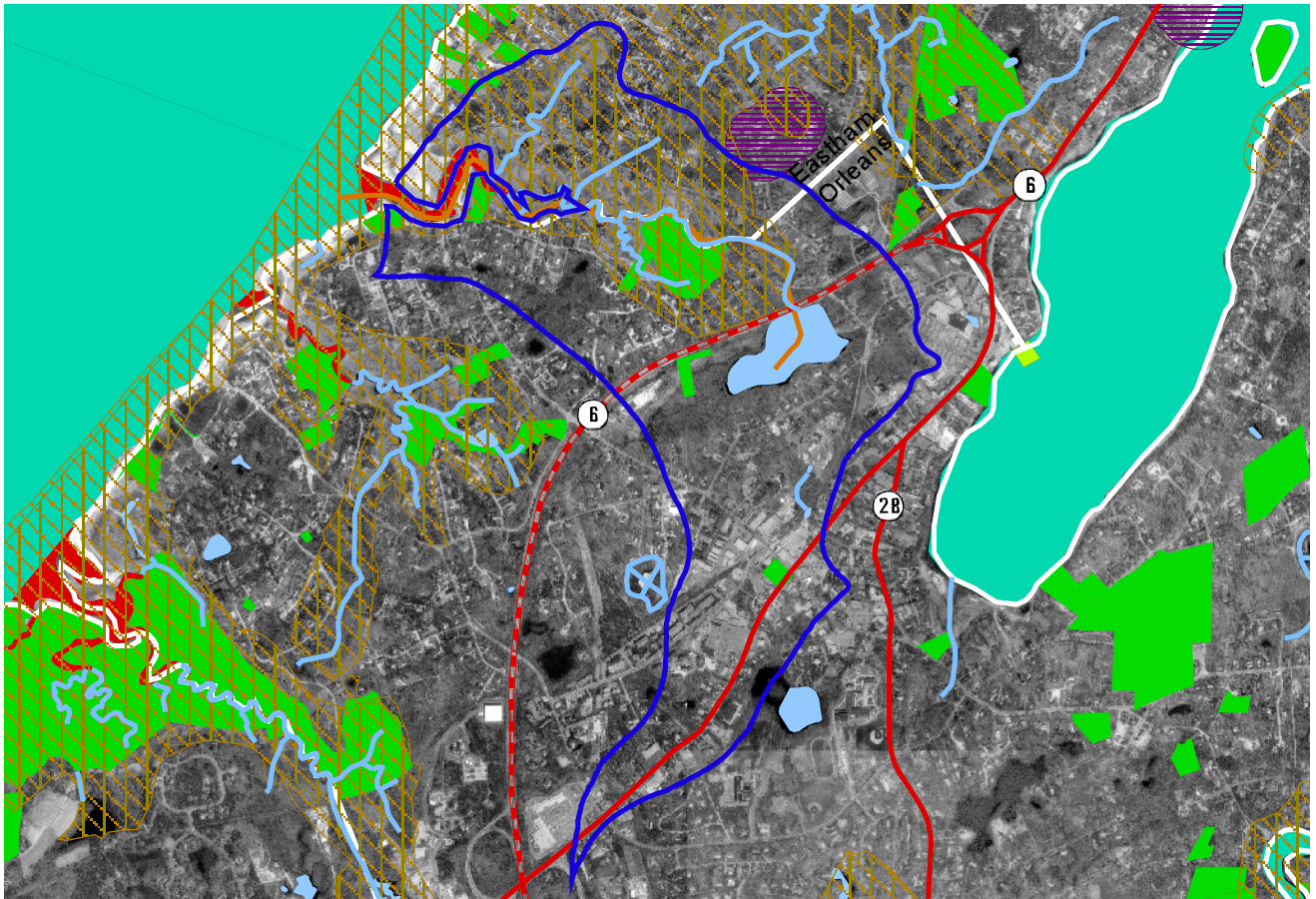
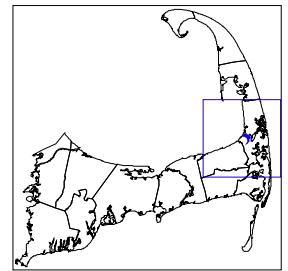
Public access:

www.state.ma.us/dfwele/pab/pabSEmap.htm

Public beaches and landings: two landings in Rock Harbor

Rock Harbor Creek

Orleans and Eastham, MA



Watershed Resources



0 0.3 0.6 Miles

Natural Heritage and Endangered Species Program Data

- Certified Vernal Pool
- Priority Habitats of Rare Species
- Estimated Habitats of Rare Species

Groundwater Protection Areas

- Interim Wellhead Protection Area
- Zone II
- Solid Waste Facility

Watershed Boundary

Anadromous Fish Run

Shellfish Growing Areas

- APPROVED
- CONDITIONALLY APPROVED
- MANAGEMENT CLOSURE
- PROHIBITED
- RESTRICTED

Open Space

Streams

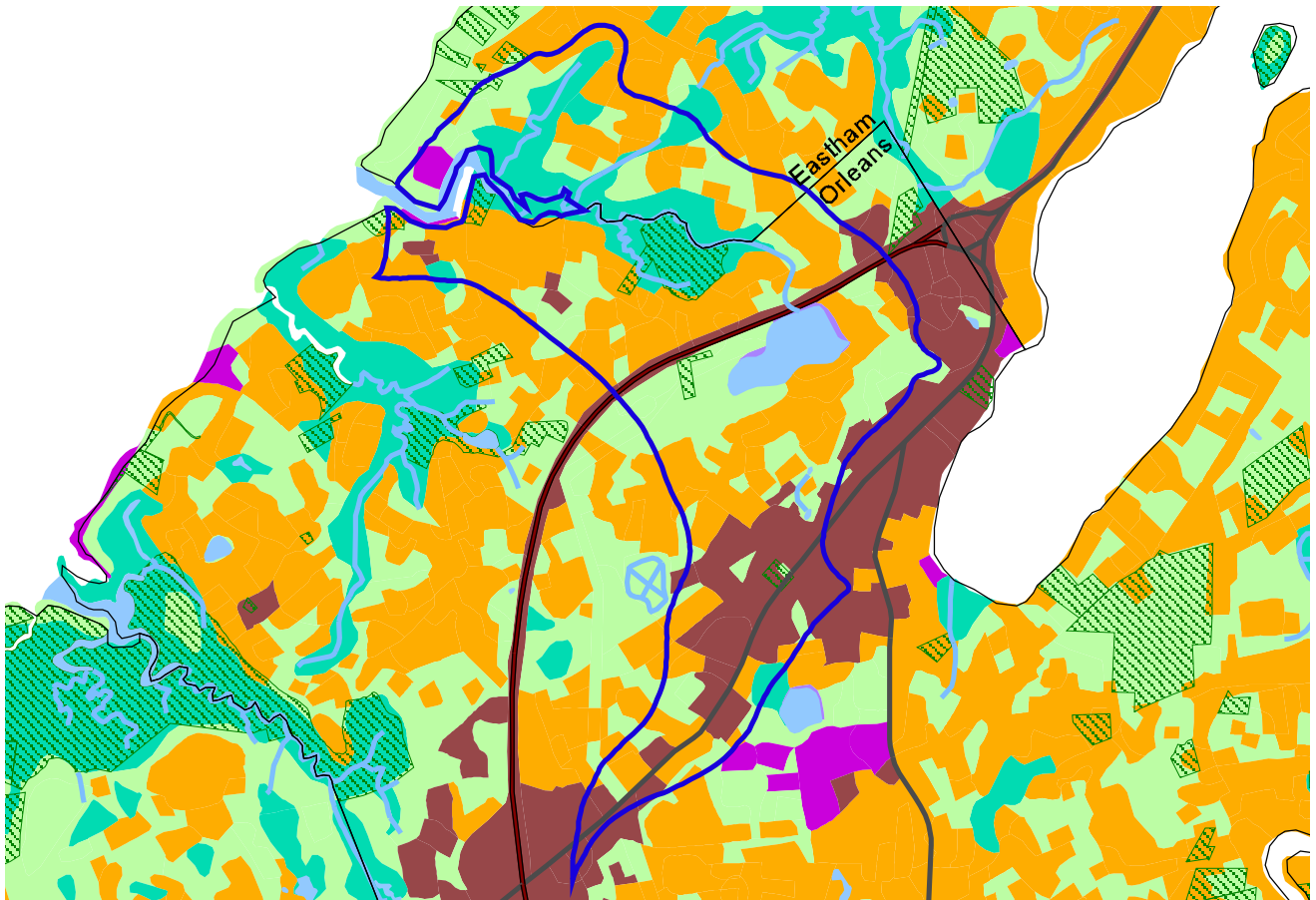
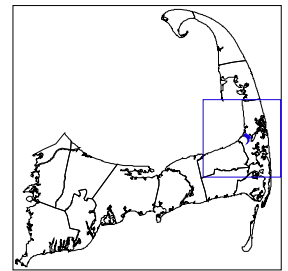
Ponds

Roads

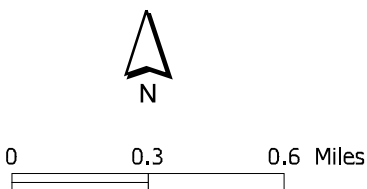


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Land Use



Land Use

